

47. *Sitta canadensis*. RED-BREASTED NUTHATCH. — One seen August 18.
48. *Parus atricapillus*. CHICKADEE. — Most abundant.
49. *Turdus fuscescens*. WILSON'S THRUSH. — One seen September 14.
50. *Merula migratoria*. AMERICAN ROBIN. — One seen August 31. Said to be common.

The Great Blue Heron (*Ardea herodias*) was seen abundantly in Cape Breton, but apparently does not cross the Straits into Newfoundland. — LOUIS H. PORTER, *New York City*.

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## RECENT LITERATURE.

Merriam's Biological Survey of Mount Shasta.<sup>1</sup> — "All high mountains," as Dr. Merriam remarks in his 'Introduction,' "particularly those that stand alone, are likely to throw light on the problems of geographic distribution, and are worthy of careful study. Shasta, not only because of its great altitude [14,500 feet], but even more because of its intermediate position between the Sierra and the Cascades, promised an instructive lesson, and was, therefore, chosen as a base station for part of the field work of 1898."

An introduction of eight pages contains an itinerary of the field work, the personnel of the party, a notice of previous publications on Mount Shasta, and a list of the new species described in the report — 5 plants and 8 mammals. The subtitles indicate the general character of the report, as follows: 'General Features of Shasta' (pp. 17-30); 'The Forests of Shasta' (pp. 30-46); 'Forest Fires' (pp. 46, 47); 'Slope Exposure' (pp. 47-52); 'Life Zones of Shasta' (pp. 52-68); 'The Boreal Fauna and Flora of Shasta contrasted with corresponding Faunas and Floras of the Sierra and the Cascades' (pp. 69-82); 'Efficiency of Klamath Gap as a barrier to boreal species compared with that of Pitt River and Feather River Gaps collectively' (pp. 83, 84); 'Sources of the Boreal Faunas of

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<sup>1</sup> Results of a Biological Survey of Mount Shasta, California. By C. Hart Merriam, Chief of Division of Biological Survey. = North American Fauna, No. 16, Svo., pp. 1-179, pls. i-v, and 46 text illustrations. U. S. Department of Agriculture, Division of Biological Survey. Washington: Government Printing Office. Published Oct. 18, 1899.

Shasta and of the Sierra and the Cascades' (pp. 85, 86); 'Mammals of Shasta' (pp. 87-107); 'Birds of Shasta and Vicinity' (109-134); 'Notes on the Distribution of Shasta Plants' (pp. 135-169); 'Index' (pp. 171-179).

In the work of exploration, Dr. Merriam was aided by Vernon Bailey, chief field naturalist of the Biological Survey, Wilfred H. Osgood, Walter K. Fisher, and Richard T. Fisher, assistants. In addition to the work on and near Shasta, three cross sections were made of the Sierra Nevada north of latitude 39°, a line was run from Black Rock Desert, Nevada, to Shasta, and from Shasta across the wild and little known mountains between Shasta and the ocean, to Humboldt Bay.

The topographical features of Shasta are illustrated by numerous half-tone cuts and plates, from photographs, and the floral and faunal features, as influenced by altitude, air currents, and slope exposures, are duly set forth and discussed. The life zones of Shasta are the Upper Sonoran, Transition, Canadian, Hudsonian, and Arctic-Alpine. "Shasta stands on a Transition zone plane, with a dilute tongue of Upper Sonoran approaching its northern base by way of Klamath and Shasta valleys. . . . The Upper Sonoran element in the region is dilute and is limited to Shasta Valley at the north base of the mountain, which it reaches by way of the Klamath country on the north and northeast. It has no connection whatever with the Upper Sonoran of the Sacramento Valley on the south." The Transition extends up to an average altitude of about 5,500 feet; the Canadian to about 7,500 feet; the Hudsonian to about timber line, or to 9,500 feet; the Alpine to about 11,000 feet, above which is the bare ice-clad summit, rising to 14,500 feet. The species of mammals, birds, and plants of the several zones are tabulated in accordance with their ranges and restrictions. The transition between zones is, of course, gradual, there being an overlapping belt between each of about 800 feet.

The list of birds of Shasta and vicinity numbers 136 species, and is based almost wholly on the observations of various members of the party made during the season of 1898, the chief data from other sources being derived from Mr. C. H. Townsend's 'Field Notes on the Mammals, Birds and Reptiles of Northern California,' published in 1887. In addition to the regular assistants already mentioned, observations on the birds are credited to Miss Florence A. Merriam and Mr. John H. Sage, who were also members of the general field party.

Dr. Merriam's report, it is needless to say, is not only a valuable contribution to our knowledge of the physical geography and the fauna and flora of Shasta, but also throws much light upon the causes, both local and general, that determine the distributional limits of species. — J. A. A.

Palmer's 'The Avifauna of Pribilof Islands.'—Among the many important contributions to the natural history of the Pribilof Islands contained in Part III of the recently issued report of the United States